

Claims

What is claimed is:

1. A final drive assembly for transmitting torque between an input and an output, said final drive comprising: a compound gear assembly including at least three planetary gear trains and being in driving engagement with the input, each planetary gear train of said at least three planetary gear trains being adapted to coaxially and drivingly engage the output, wherein torque generated by the input is distributed to the output by said each of said planetary gear trains.

2. The final drive assembly of claim 1, wherein the output consists of a wheel assembly having a rim assembly, said at least three planetary gear trains are substantially enclosed by said rim assembly.

3. The final drive assembly of claim 2, wherein at least one of said at least three planetary gear assemblies is positioned inboard relative said wheel assembly.

4. The final drive assembly of claim 1, wherein the input includes one of an electric drive motor, a hydraulic motor, an internal combustion engine and a hybrid source.

5. The final drive assembly of claim 1, wherein said compound gear set includes an outboard planetary gear train drivingly engaged by the input.

6. The final drive assembly of claim 1, wherein said compound gear assembly comprises a first planetary gear train, a second

planetary gear train and a third planetary gear train, said first, second and third planetary gear trains each respectively include sun gears, said sun gears of said second and third planetary gear trains are coaxially positioned.

7. The final drive assembly of claim 6, wherein each of said first, second and third planetary gear trains each include a sun gear, a ring gear and a planetary carrier, the input is drivingly engaged with said sun gear of said first planetary gear train, said ring gear of said first planetary gear train is connected with said sun gear of said second planetary gear train, said planetary carrier of said second planetary gear train is connected with said sun gear of said third planetary gear train, said ring gears of said first and said second planetary gear trains and said planetary carrier of said first planetary gear train are connected to the output.

8. The final drive assembly of claim 6, wherein said first planetary gear train is adapted to be driven by the input and said third planetary gear train includes a portion thereof adapted to be grounded through a reaction member.

9. The final drive assembly of claim 1, wherein a speed modification ratio between the input and output generated through the compound gear assembly is at least 49:1.

10. A machine having an input, comprising:
at least one output; and
at least one final drive assembly structured and arranged to transmit rotation between the input and the output, said final drive assembly including a compound gear assembly comprising at least three planetary gear trains and being in driving engagement with the input, each planetary gear train

of said at least three planetary gear trains being adapted to coaxially and drivingly engage said output, wherein torque generated by the input is distributed to said output by said each of said planetary gear trains.

11. The machine of claim 10, wherein said output of said at least one final drive assembly includes a wheel assembly having a rim assembly, said at least three planetary gear trains are substantially enclosed by said rim assembly.

12. The machine of claim 10, wherein at least one of said at least three planetary gear assemblies of said at least one final drive assembly is positioned inboard relative said wheel assembly.

13. The machine of claim 10, wherein the input includes one of an electric drive motor, a hydraulic motor and a hybrid source.

14. The machine of claim 10, wherein said compound gear set of said at least one final drive assembly includes an outboard planetary gear train drivingly engaged by the input.

15. The machine of claim 10, wherein said compound gear assembly of said at least one final drive assembly comprises a first planetary gear train, a second planetary gear train and a third planetary gear train, said first, second and third planetary gear trains each respectively include sun gears, said sun gears of said second and third planetary gear trains are coaxially positioned.

16. The machine of claim 15, wherein each of said first, second and third planetary gear trains of said at least one final drive assembly each include a sun gear, a ring gear and a planetary carrier, the input is drivingly

engaged with said sun gear of said first planetary gear train, said ring gear of said first planetary gear train is connected with said sun gear of said second planetary gear train, said planetary carrier of said second planetary gear train is connected with said sun gear of said third planetary gear train, said ring gears of said first and said second planetary gear trains and said planetary carrier of said first planetary gear train are connected to the output.

17. The machine of claim 15, wherein said first planetary gear train of said at least one final drive assembly is adapted to be driven by the input and said third planetary gear train includes a portion thereof adapted to be grounded through a reaction member.

18. The machine of claim 10, wherein a speed modification ratio between the input and output generated through the compound gear assembly of said at least one final drive assembly is at least 49:1.